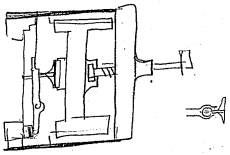
Notebook, N-88-02-02

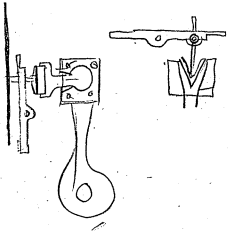
This notebook covers the period February 1888-April 1889. All entries are by Edison, except for one entry by Arthur E. Kennelly. Included are notes and drawings regarding a long-distance telephone transmitter using phonograph cylinder technology. There are also entries pertaining to battery experiments, disk phonographs, and a fluorescent light caveat; cost calculations relating to the buildings and employees required for an ore milling operation; and notes and drawings concerning electromagnetism. The pages are unnumbered, and the book has been used in both directions. Approximately 120 pages have been used.

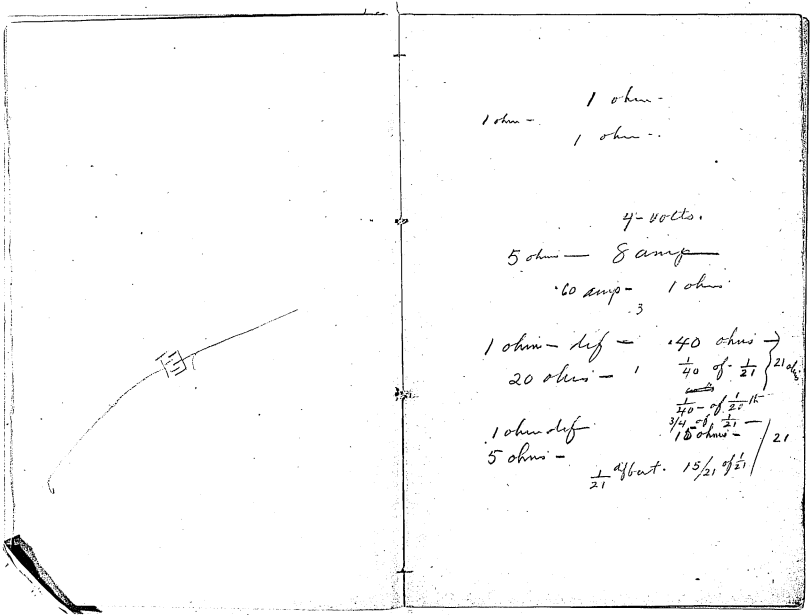
VE-172 N-88-02-02

Feby 2 1888

Long Distance Trans





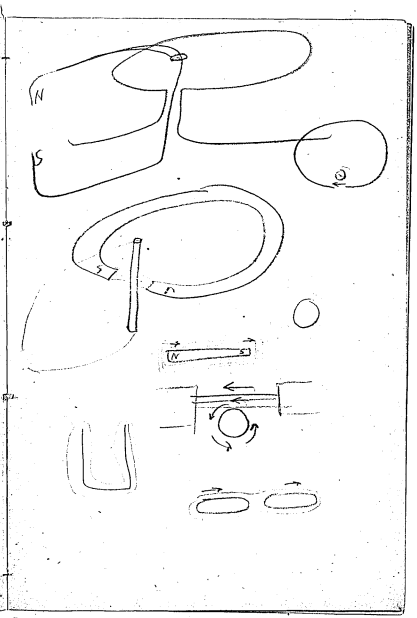

1 ohm -
1 ohm -
1 ohm -
4 volts.
5 ohm — 8 amp —
·60 amp - 1 ohm
·3
1 ohm - def — ·40 ohms →
20 ohms — 1 1/40 of 1/21 } 21 ohms
1/40 - of 1/20 th
3/4 - of 1/21 —
1 ohm def
5 ohms - 15 ohms - } 21
1/21 about. 15/21 of 1/21

Feb 2 1888

Try with a Hulo graph Chalk cylinder with 50 threads to inch wrapped like a thread of burnished paper talked to by good Carbon transmitter just leaves a record sufficient to reproduce the sound I think it will if used soon after recording. A dose on paper but this is probably due to Oxidation of the surface. The paper is

Perhaps a cylinder could be made of some substance like gelatin, or Lichens or glue & Malacca etc which would keep sufficiently moist to allow of Current passing. Then the Oxidation of Hydrin would alter the friction at points & thus record irregularities

Try Aniline Violet mixed with good Telephone Lampblack — Electrotypers plumbago to make a quick drying Coherent paste for Crayons. also Some of the other anilines —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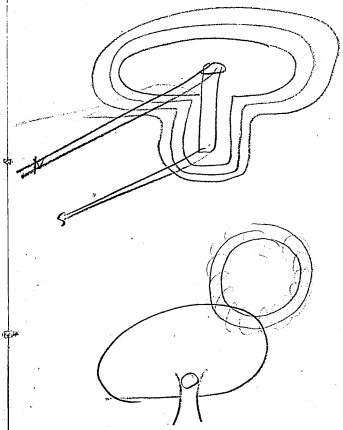
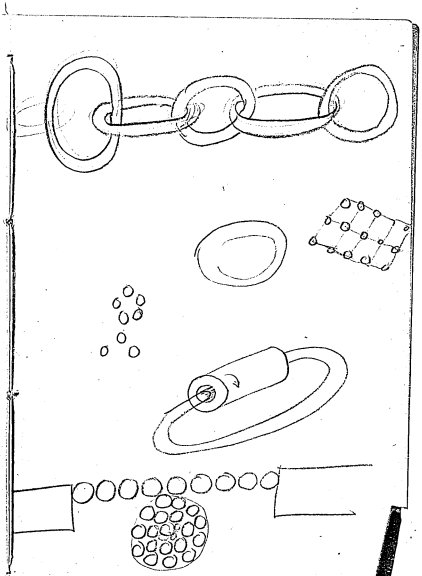
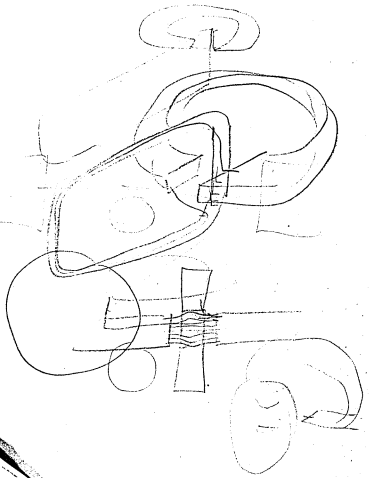
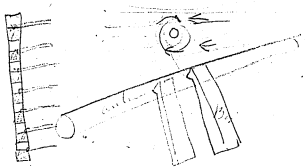
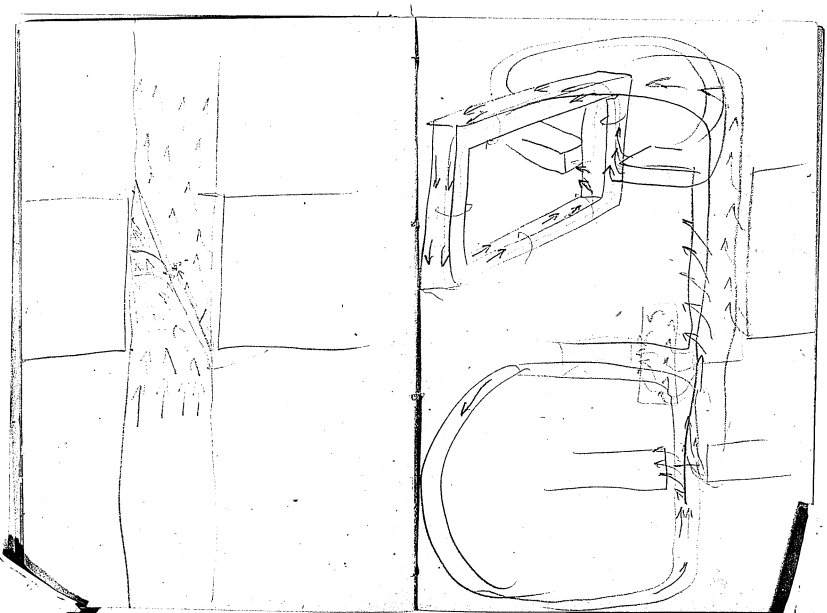


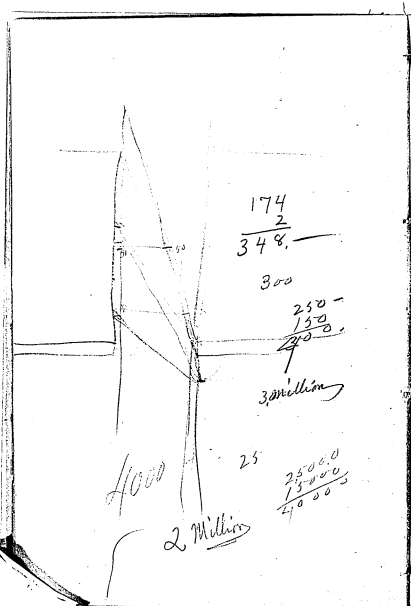


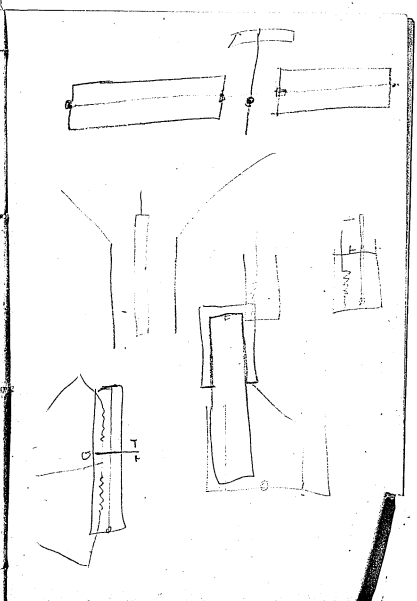


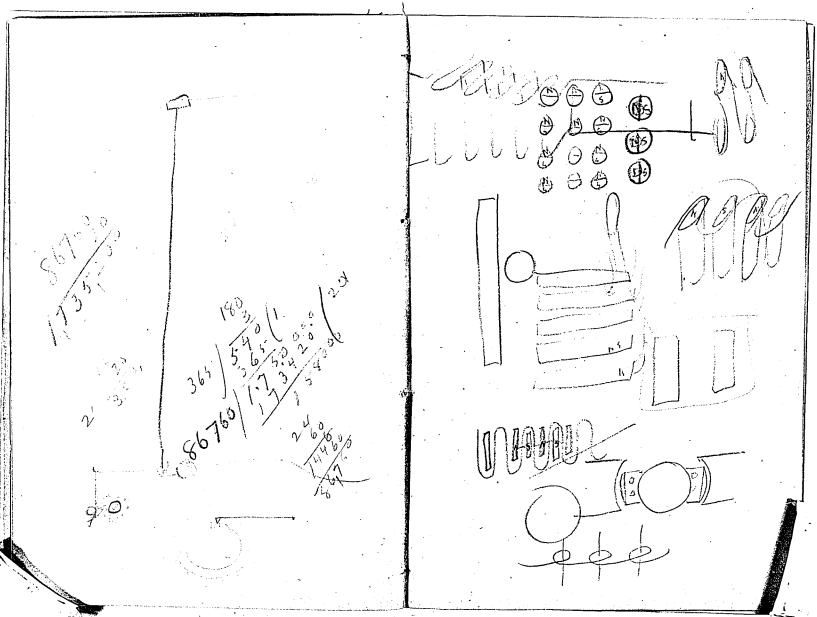
a wire pushed thro' a magnetic field. has matterless friction. not gross friction of matter but friction of the ether —
The ether is condensed by the magnetic stress across it. if the circuit of wire is a closed one we have a current & an electric stress and the friction is increased.

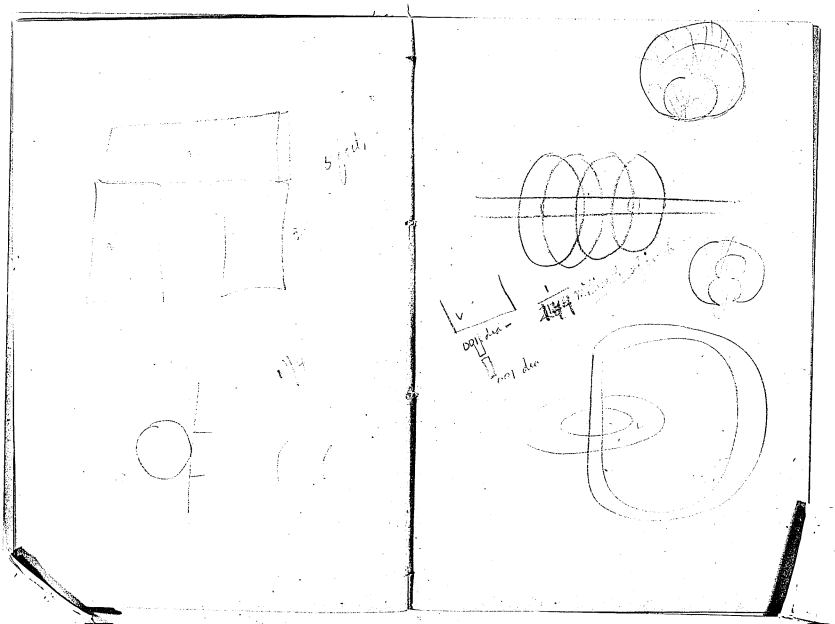


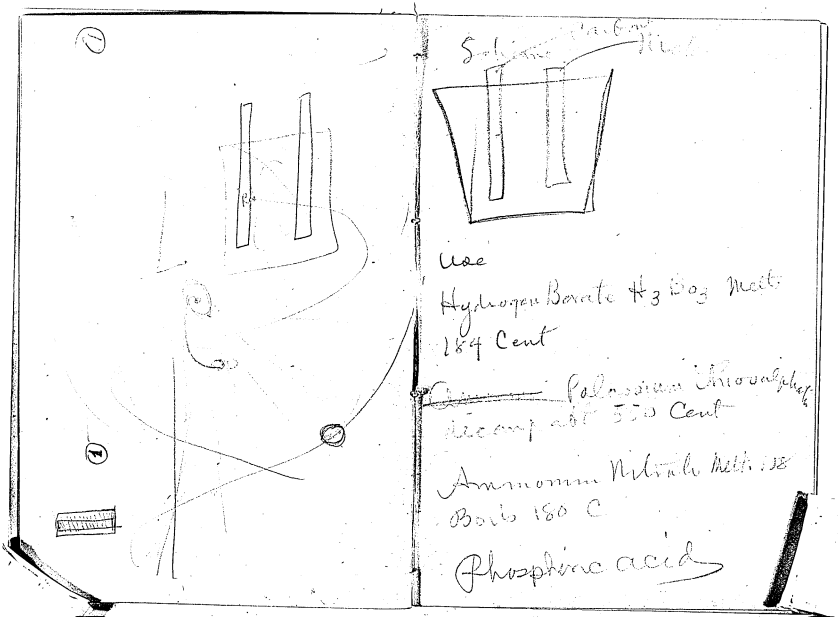



174
2
348.
300
250 -
150
40.
3 million
4000
25
25000
15000
40000
2 Million









Use
Hydrogen Borate H_3BO_3 Melt
184 Cent
Potassium Chromate
decomp abt 530 Cent
Ammonium Nitrate Melts 158
Boils 180 C
Phosphoric acid

δ Thio-oxalic acid
$H_2S_2O_4$ decomposed at 100 C

Hydrogen Potassium Sulphate
$KHSO_4$

Tetrahydrogen potassium Disulphate
168 mp $H_2K_2(SO_4)_2$

Tetrapotassium Dihydrogen Orthodisulphate
HKS_2O_7 – mp 168 – gives

Ammonium Hypophosphate
$(NH_4)H_2PO_2$ – Decomp 240 C

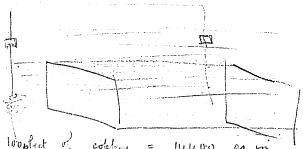
Energy EC = $\frac{E^2 R}{\pi}$

1 ampere Res. 230 volts @ .16 w

3680 w

3680 Watts = 4.8 HP

3680 volts



100 feet of copper = 11400 sq m

18,000 million cmils

and 1 foot has $\frac{10}{18,000,000,000}$ ohm

230 volts = 750000 feet say 800000 yards

total res. $\frac{800000}{18000} = \frac{1}{22.50}$ "

$\frac{E^2}{R} = \frac{3700 \times 3700 \times 22.50}{750} = 50$

Battery Exp. 1727 28 738

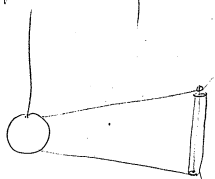
Sodium Dihydrogen phosphate
H_2NaPO_4 mp 204 C

Di Sodium Hydrogen Arsenate
mp about 200 -
$H Na_2 AsO_4$ —

Chromic acid —

In Reg Cr anode & Cu cathode in Cylinder add small quantity of oil to cause particles of impurities to float to surface & remove to keep grading by Grade Beeswax - Graphoyle Mineral oil - Oleic acid Stearic acid - Tallows — Sperm Oil Palm oil

Kennedy



Iron tube with two wide parts containing dielectric solids & liquids also conducting liquids

Magnet & pt

Tube square to just fit air space only-

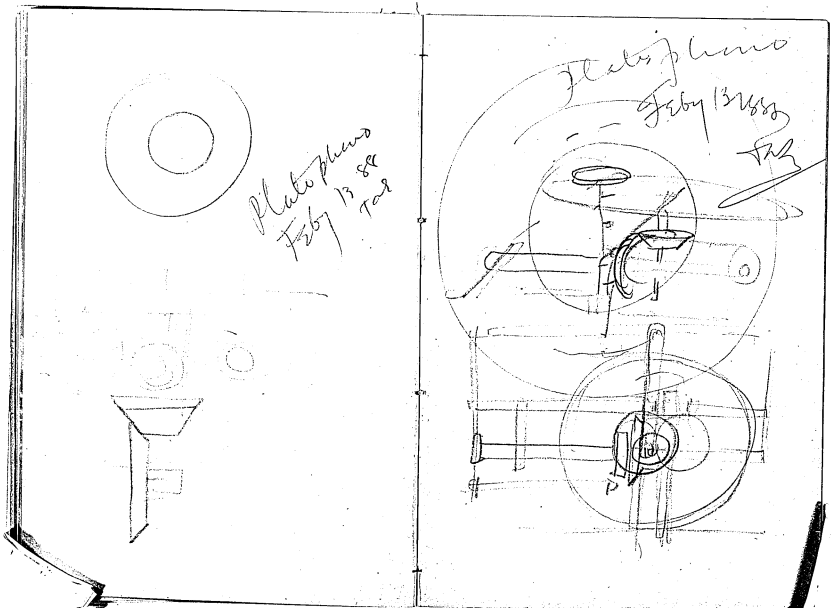


Plate plans
Feby 13 88
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Plate plans
Feby 13 1888
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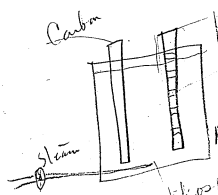
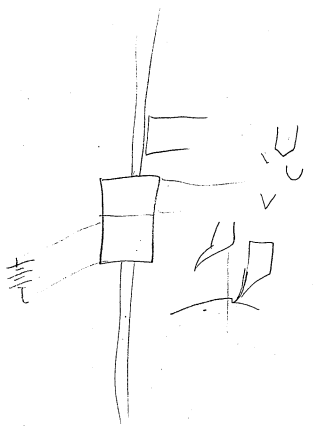
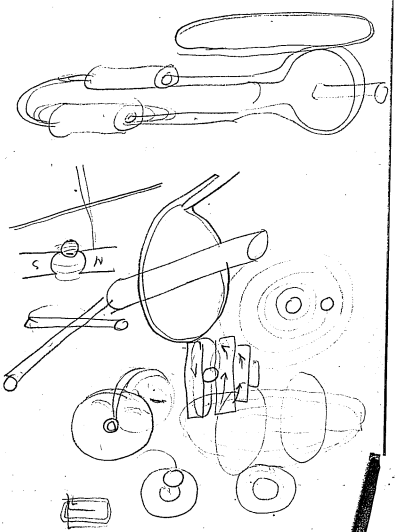

Carbon
Platinum
an oxide which conducts
at room temp conductivity
at Red heat volumetric
Red hot
Steam
phosphoric acid Red hot
Boric acid

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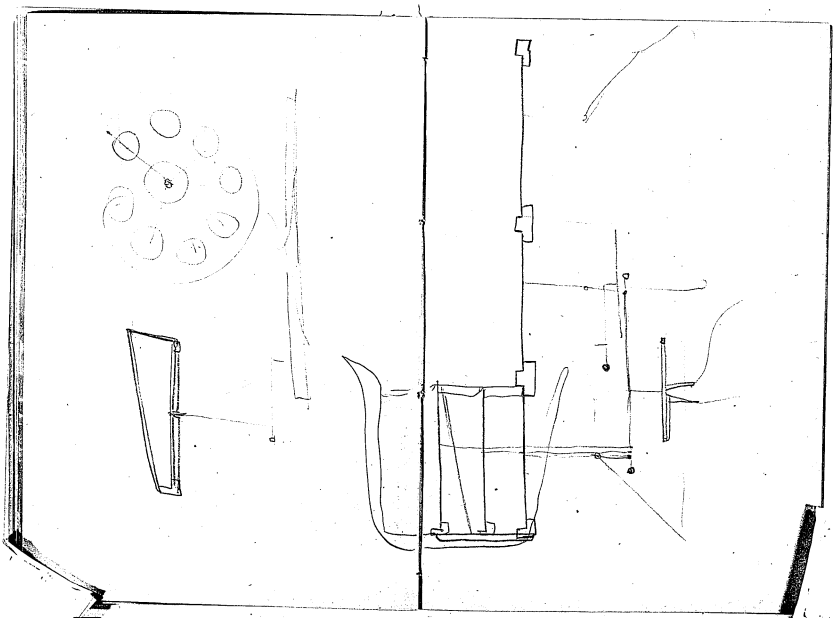
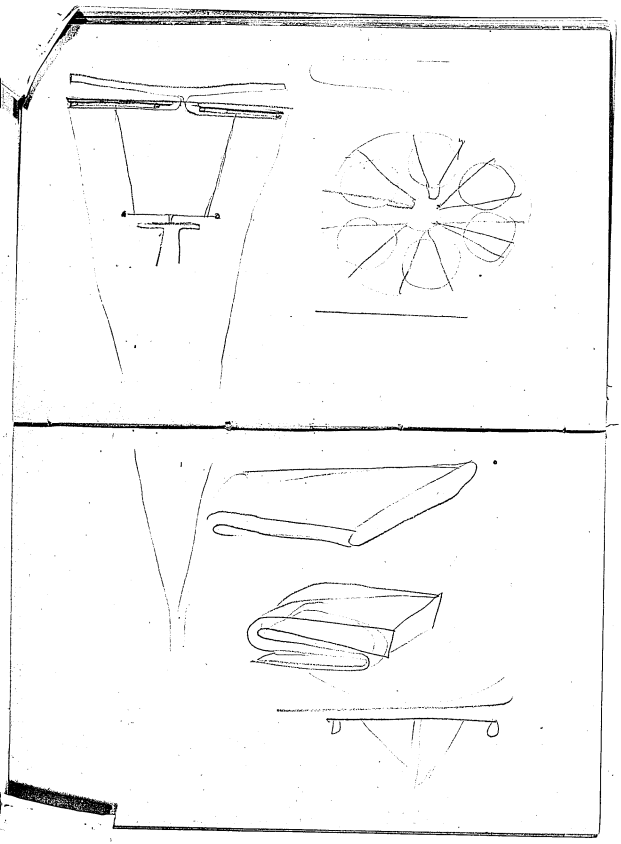
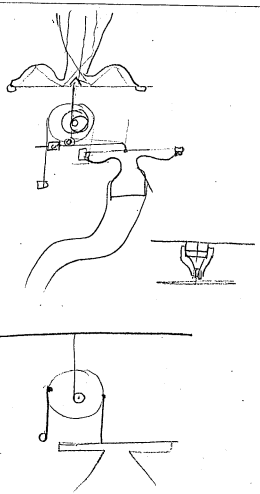
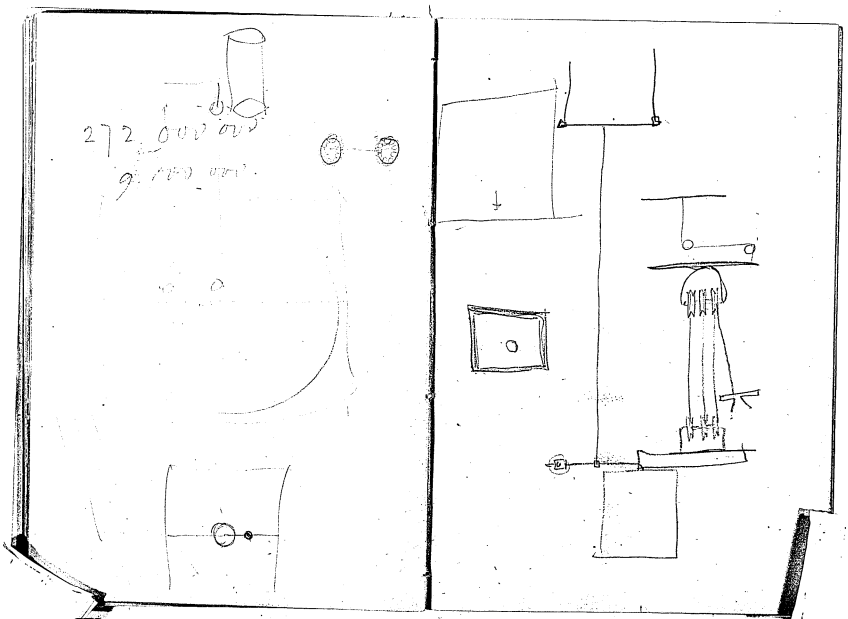
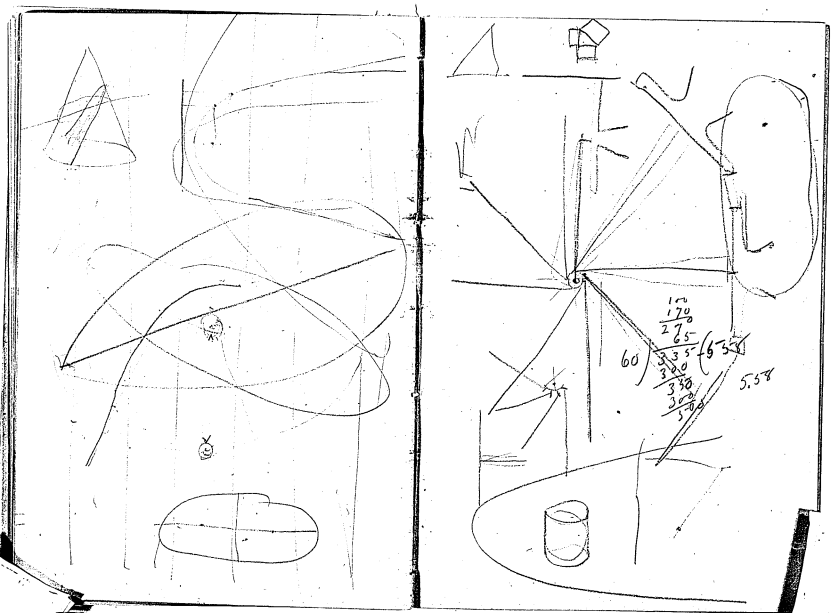
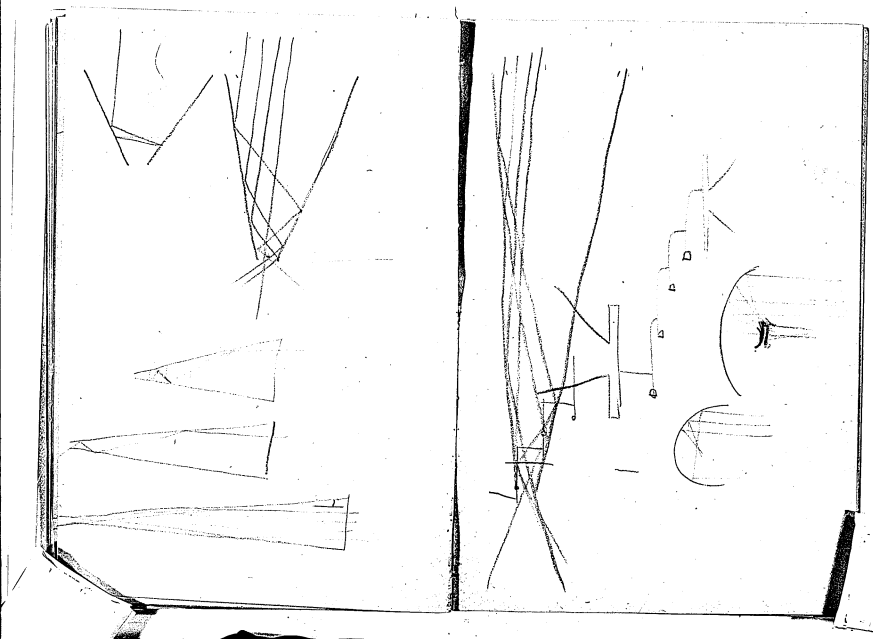


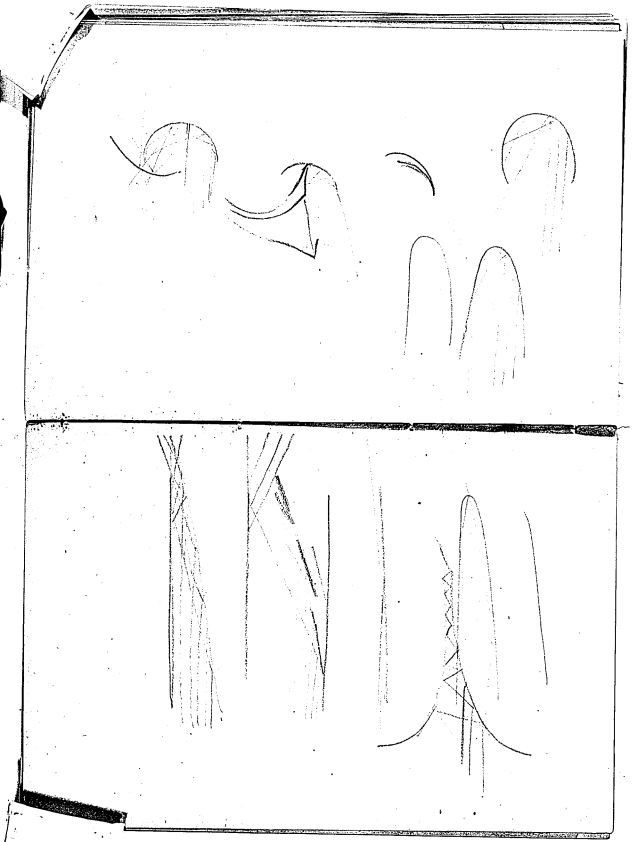


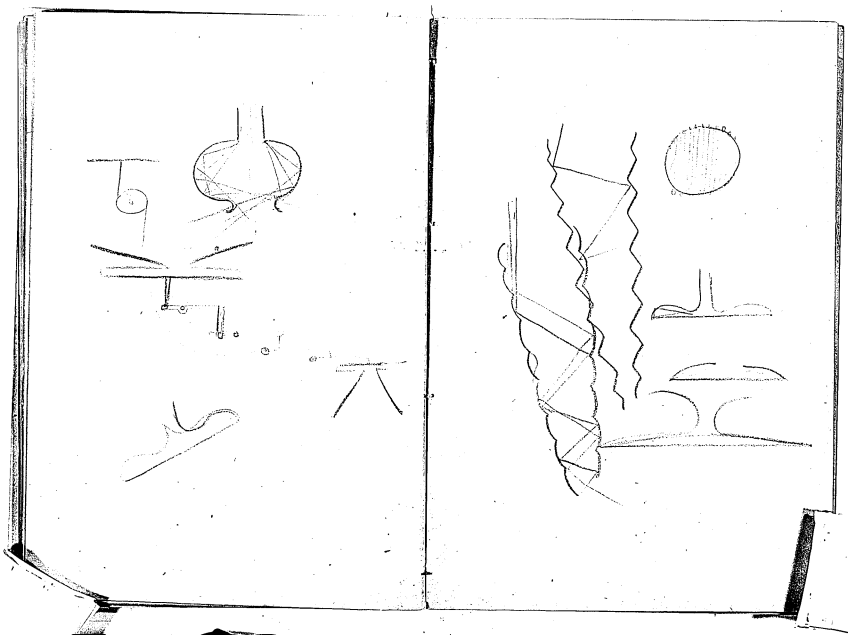


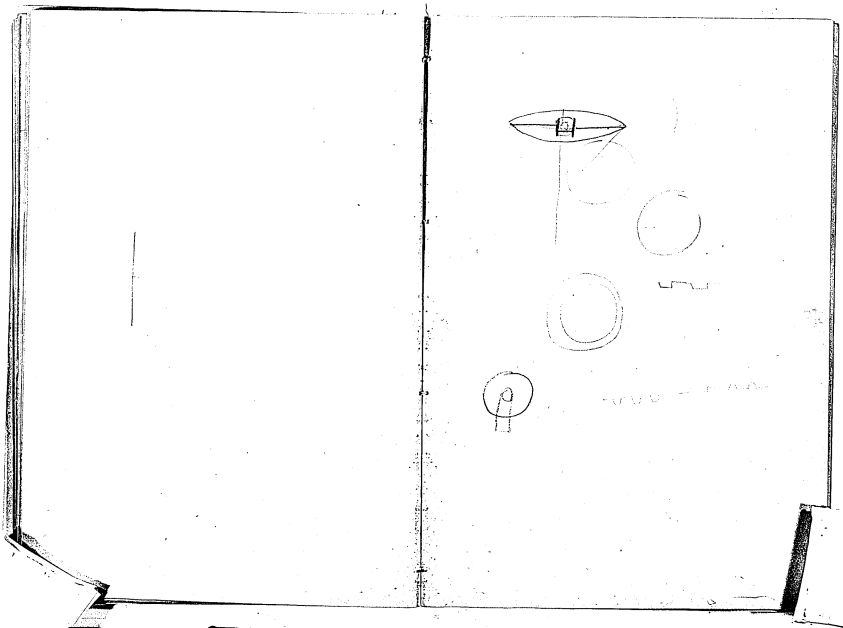


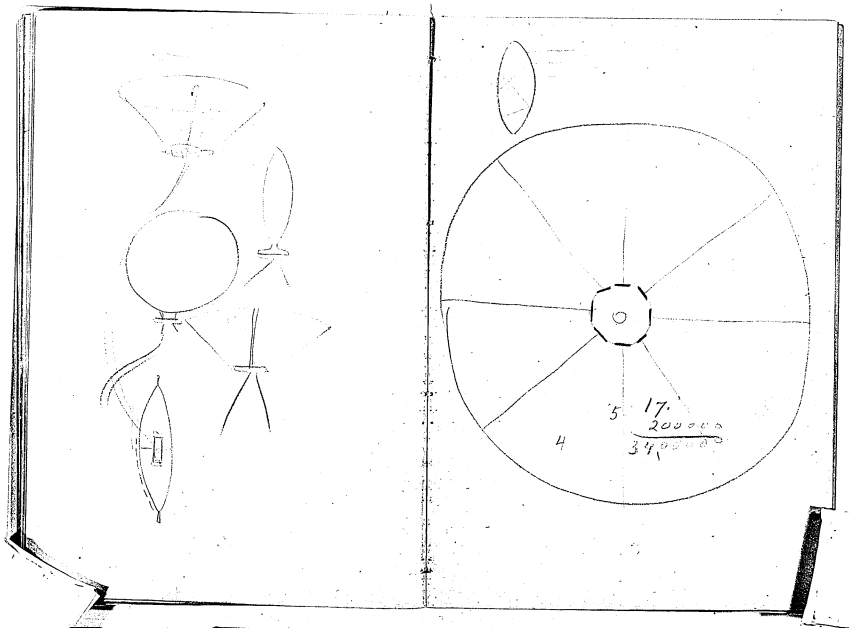

60
5.58







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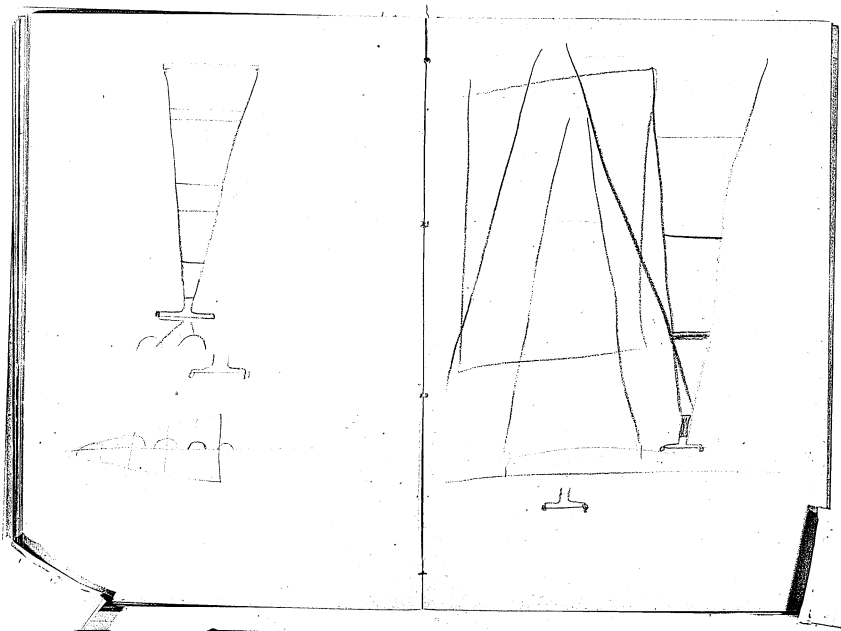
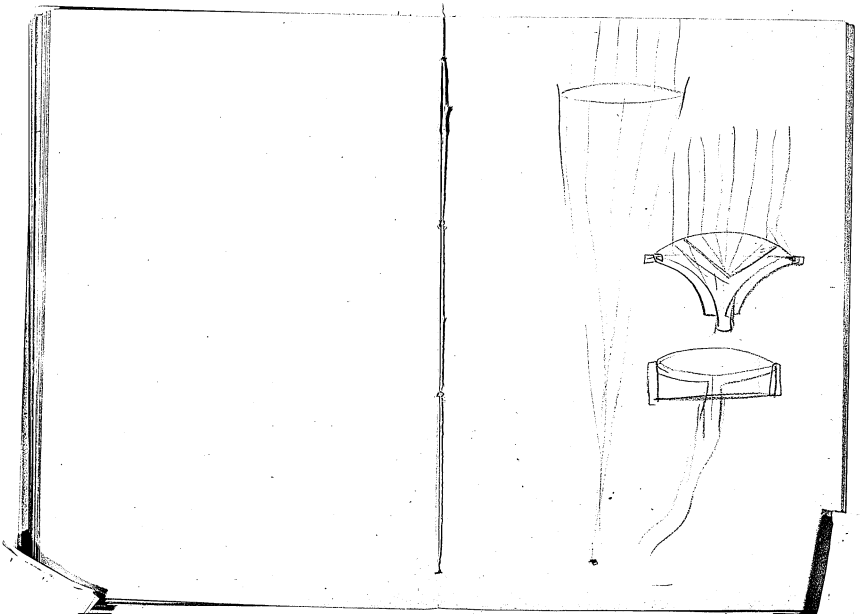
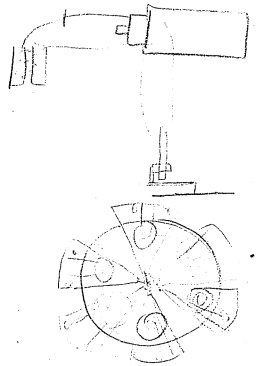
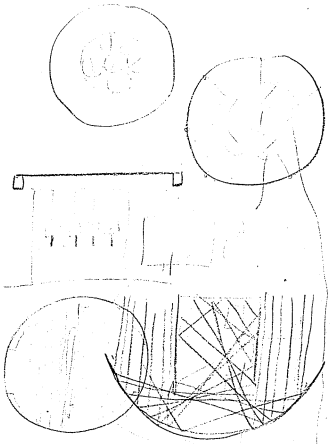
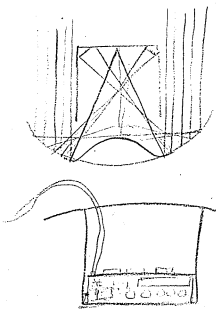
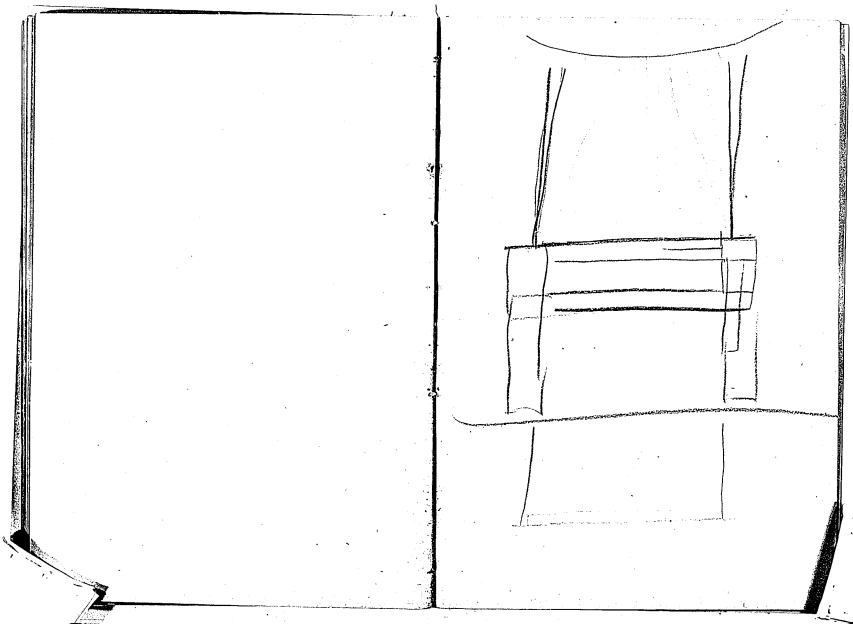


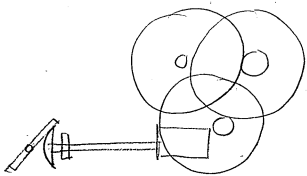


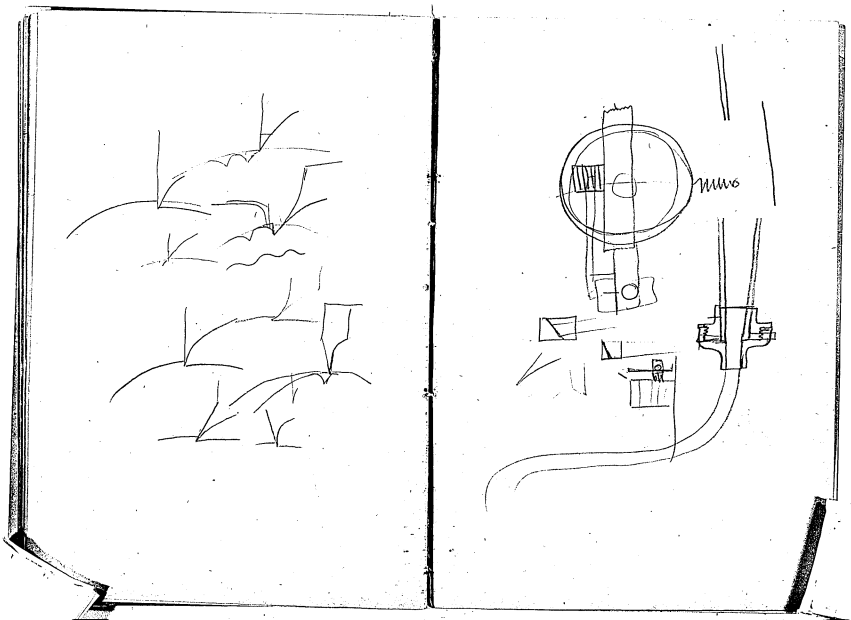












750 — 750 — pm

1500

200 —

Mills 1,500,000
Sil Co 750,000
2,250,000

750,000

6. 300,000. 174
348.

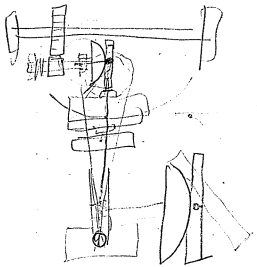
300

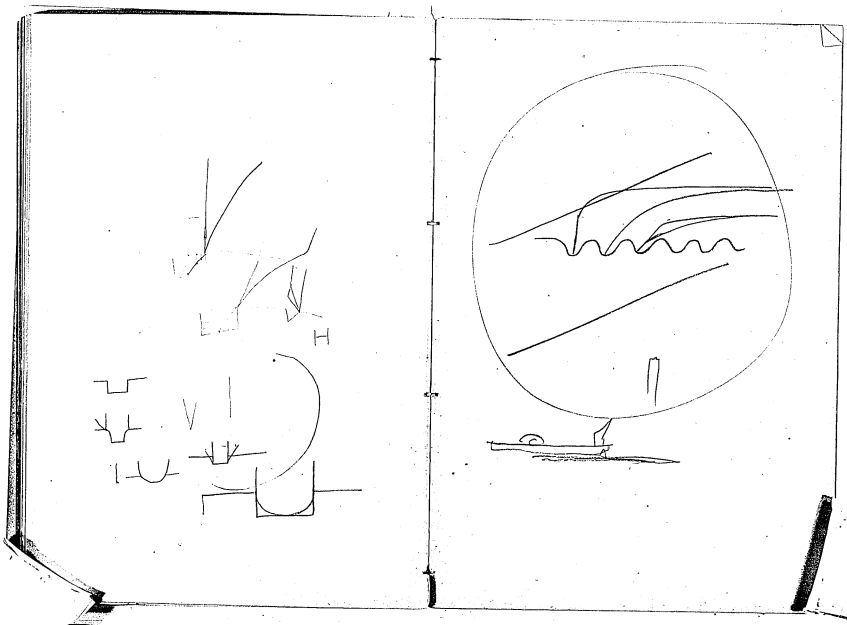
750,000

4,250,000 1,500,000
2,250,000

4. 1/2 Cash 1/2 Stock

1,125,000
2,000,000 working Capital
2,625,000
1,125,000
3,750,000
3,750,000

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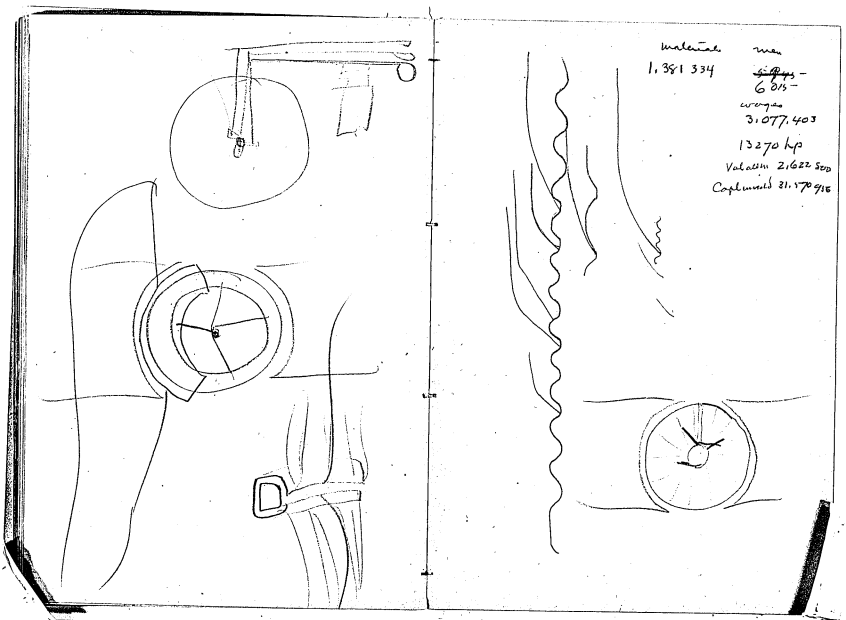
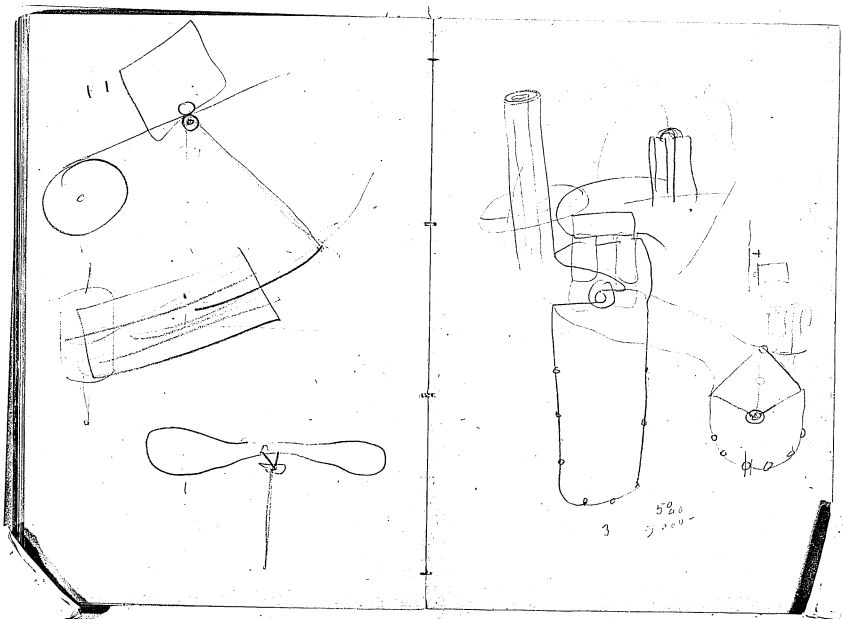
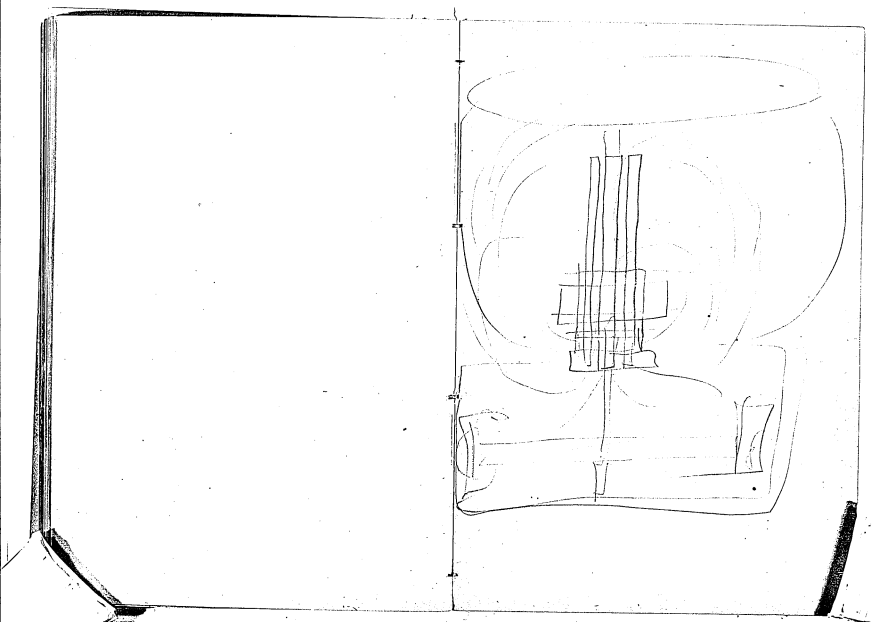
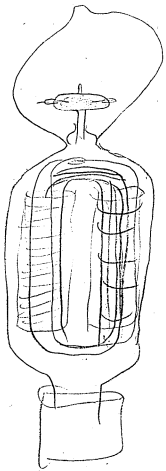
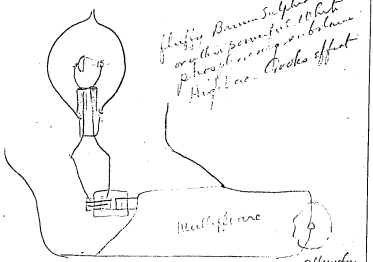

Material
1,381 334
wages
6 0/5 -
wages
3,077,403
13270 hp
Valuation 2,622 500
Capitalized 21,170 916

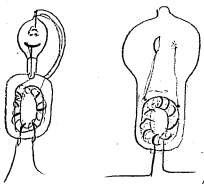




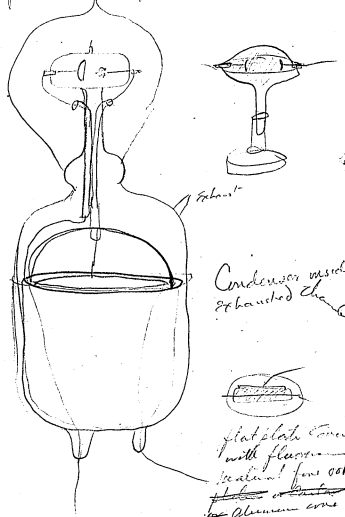


April 12 Phono T & T Co

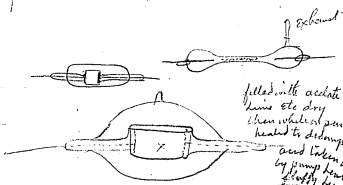




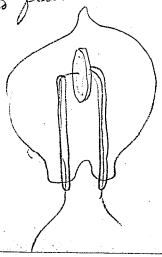
April 12 1884 phono + Electric light Car


Exhaust
Condenser inside exhausted Chamber
flat plate Condenser with platinum leading foil out
Aluminum arm in front

April 12 1889 Fluorescent Cav

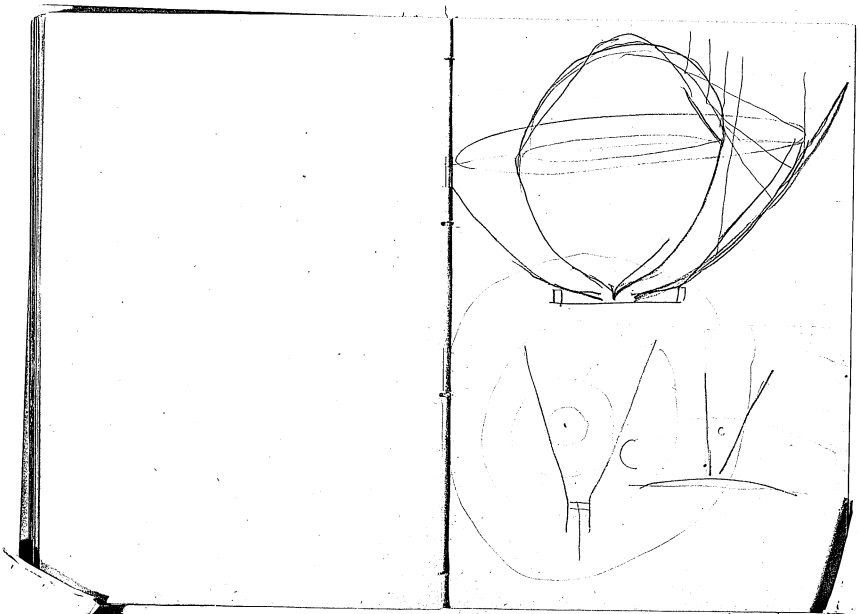


X Fluorescent material into which
wires are fused or pressed
The static stress of 1 cm.
determines Cavities incidental
to fluorescence



April 12 1889 Phenomenal Caveat

Sulphur is very powerful absorber of
Ultra violet rays. Hence Sulphur in Barium
Sulphide absorbs & ~~reduces~~ Baryta Vibrates
or rather fluoresces - Hence -
a painting ~~of~~ in ~~of~~ Sulphur with an
ultra violet lamp of Barium oxide
& Thus ought to be brought ~~to~~ round
fluoresce.



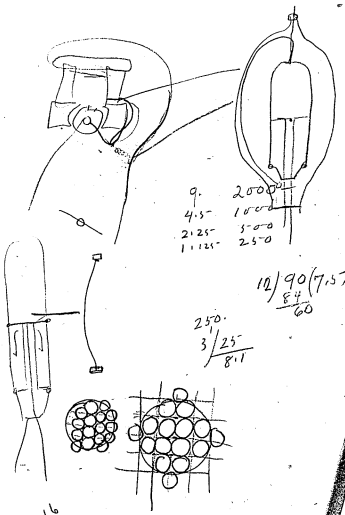
Possible way —

German silver, annular
Skeperate Excitation – Reg magnetic devices vary field –

QS armature – shunt wound –
merquet to effect mechanical resolution by worm of Res box.

Q.S. Extra brush shunt field from this –

8/5000 winding
20.
2.0
4.0
25.
OHM
10



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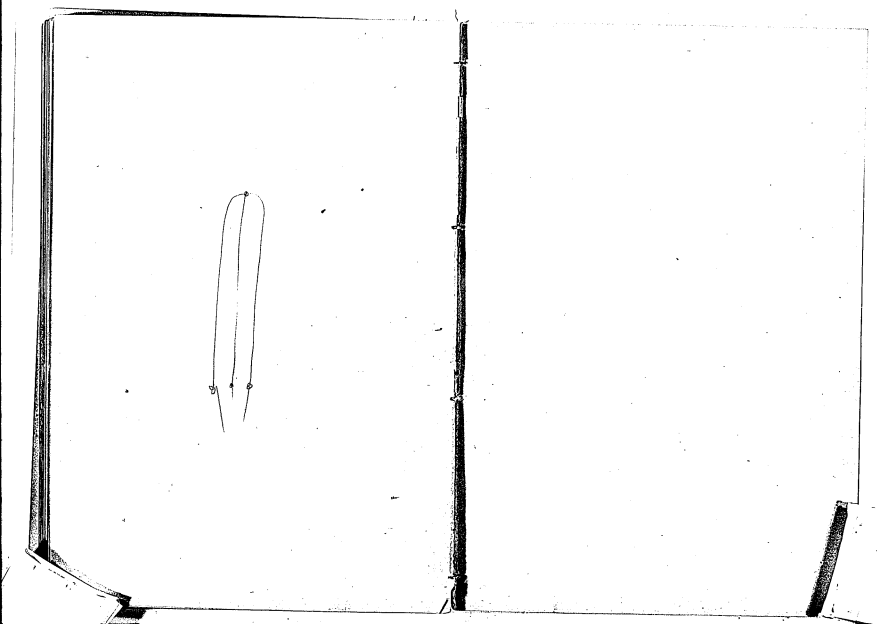
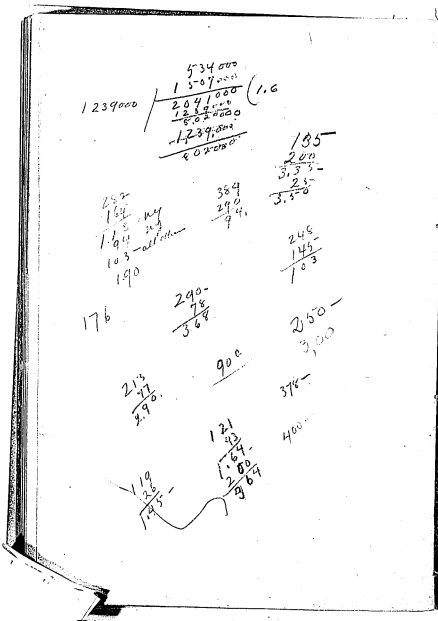
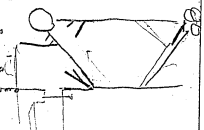




Revenue

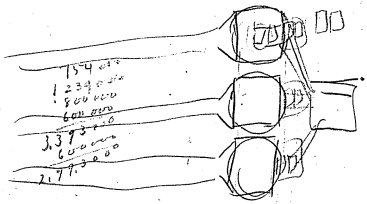
Various products	20,470,000
Maintenance contracts	2 894 000
Consumables	31688
Wages	9,538 000
HP	24,536
Various inventory	3,211 000
Capital	61,782 000

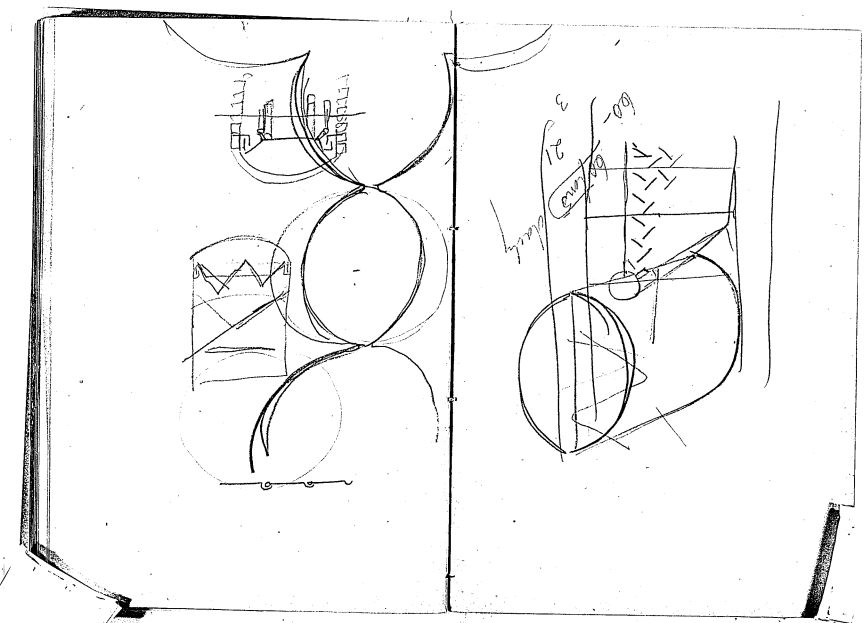


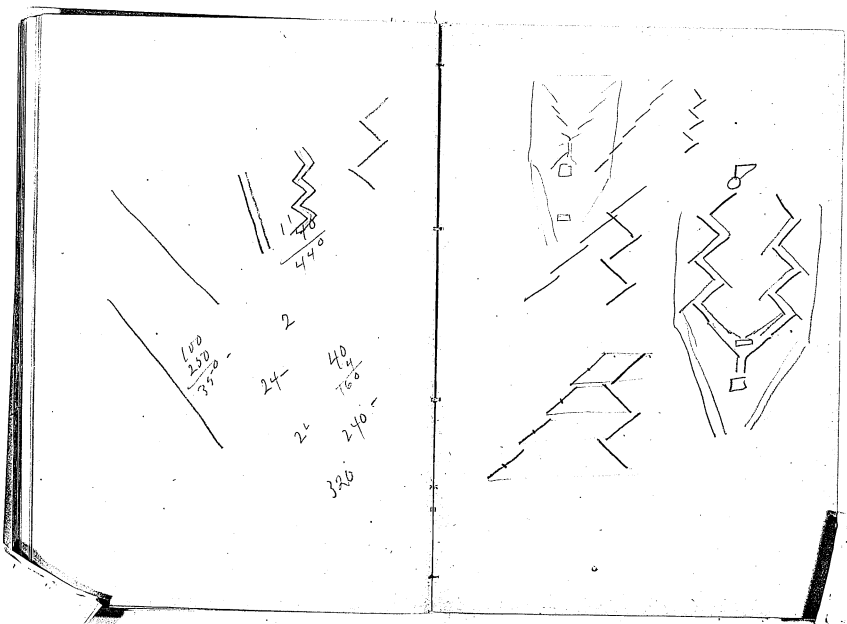
Maintenance margin per unit 4.11

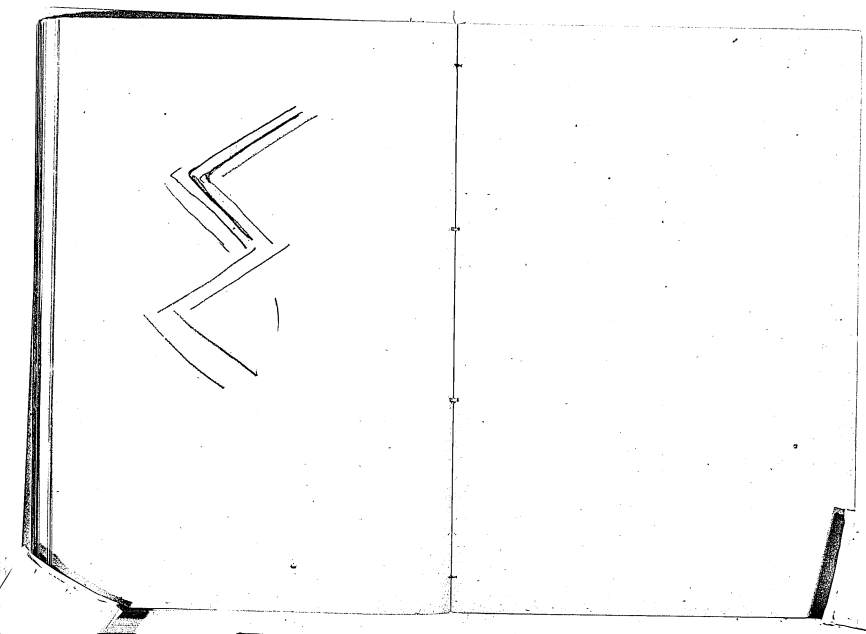
Wages per hour 1 81 -

Various product gain 2,90

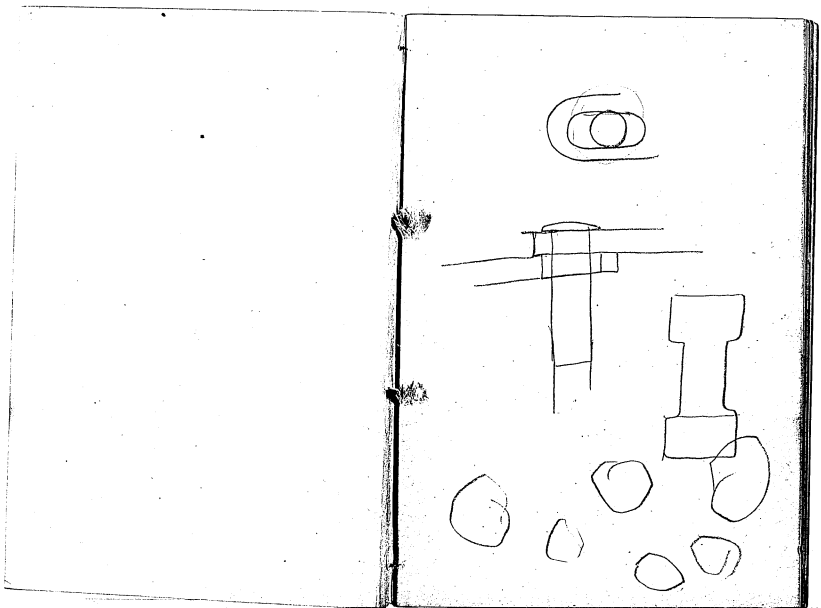


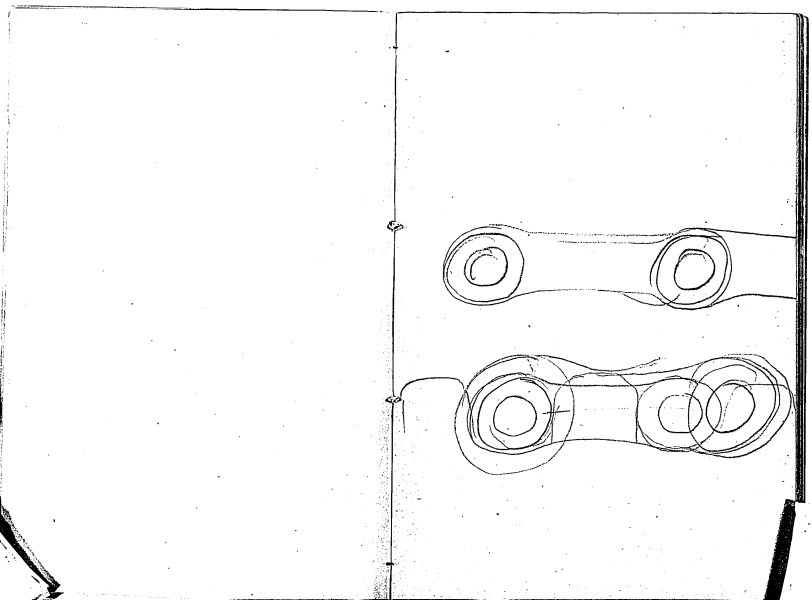


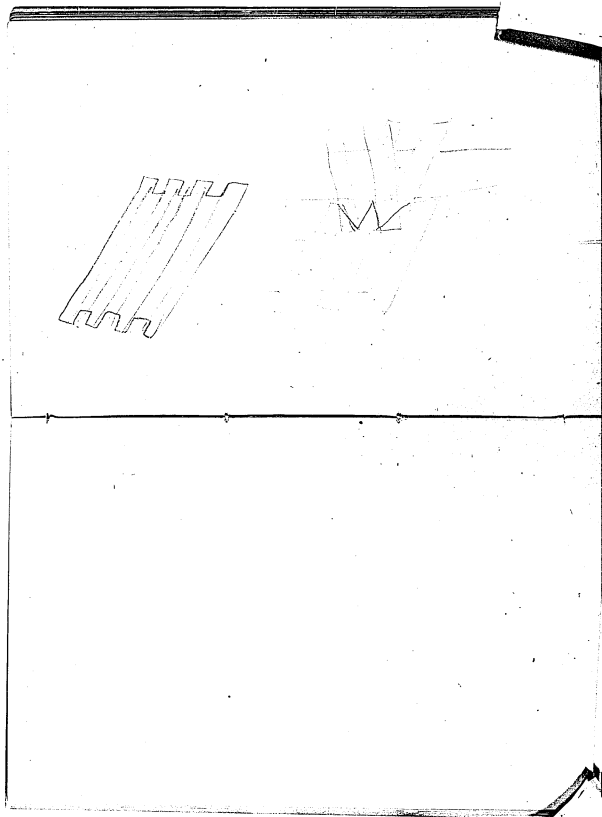

140
250
390
2
24
40
760
24
240
320
440

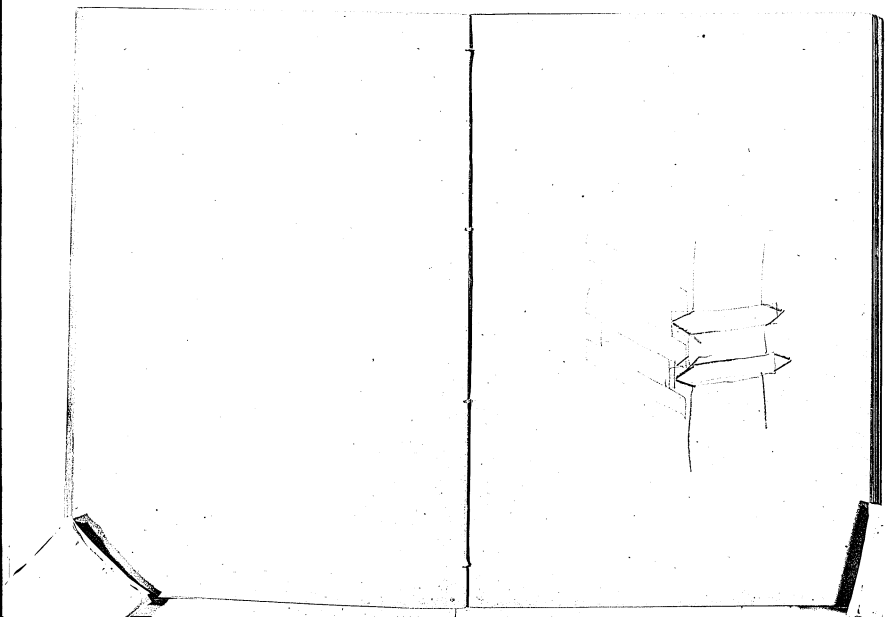


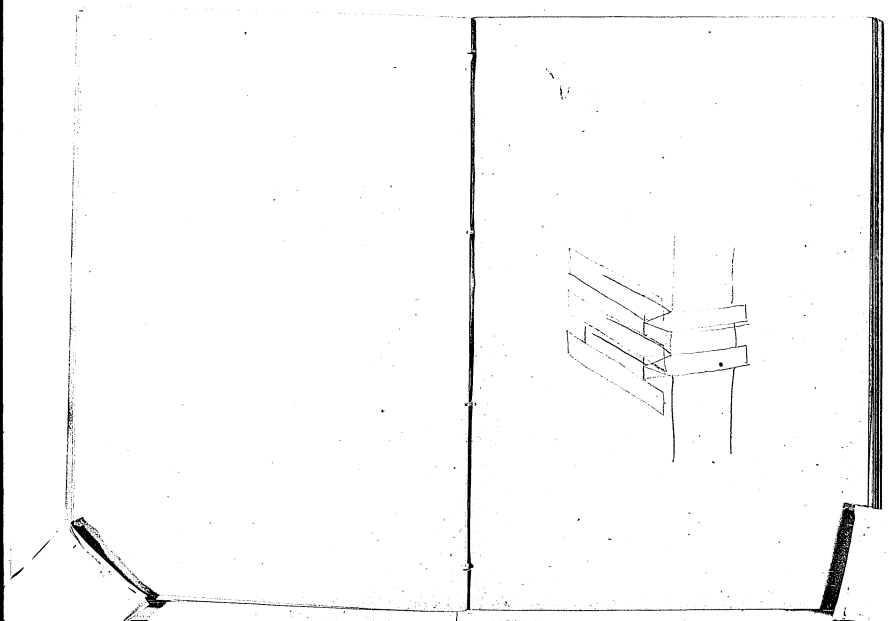
[THIS BOOK WAS USED IN BOTH DIRECTIONS. THE FOLLOWING PAGES WERE FILMED FROM THE BACK END FORWARD.]

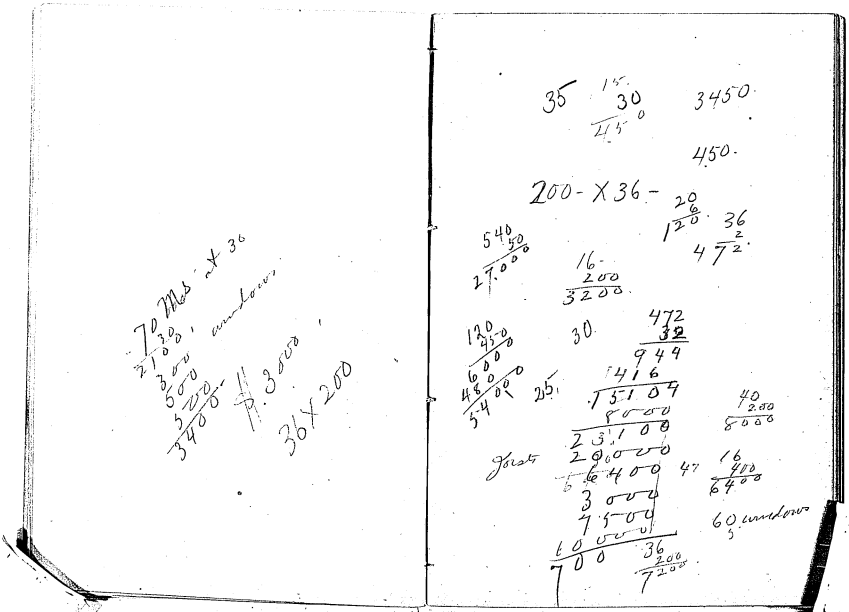











70 tiles at 36
2100
3000
5100
3400
1700
1 P. 3000
36 X 200
35
15
30
3450
45
450
200 - X 36 -
20
120
36
47 2
540
50
27000
16
200
3200
120
45 00
6000
4800
5400
30
472
32
944
416
25
15104
80000
23100
200000
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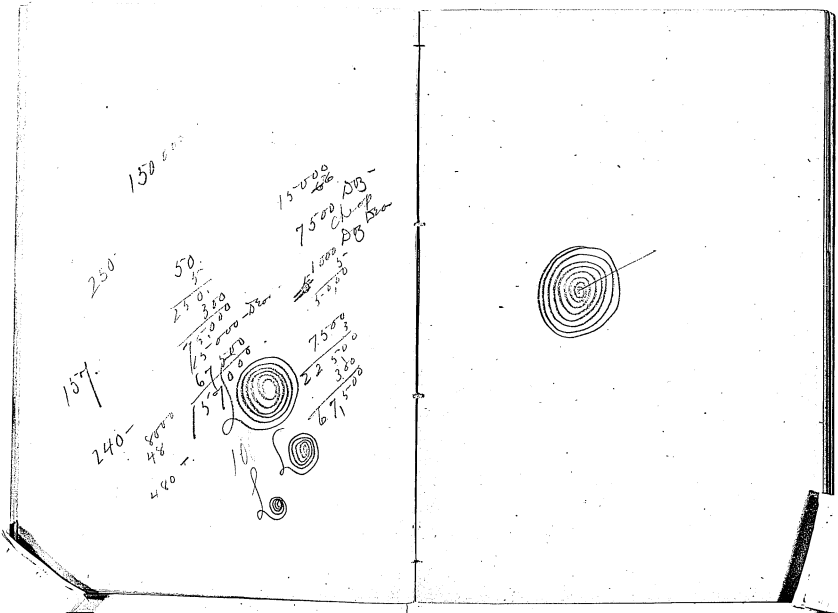
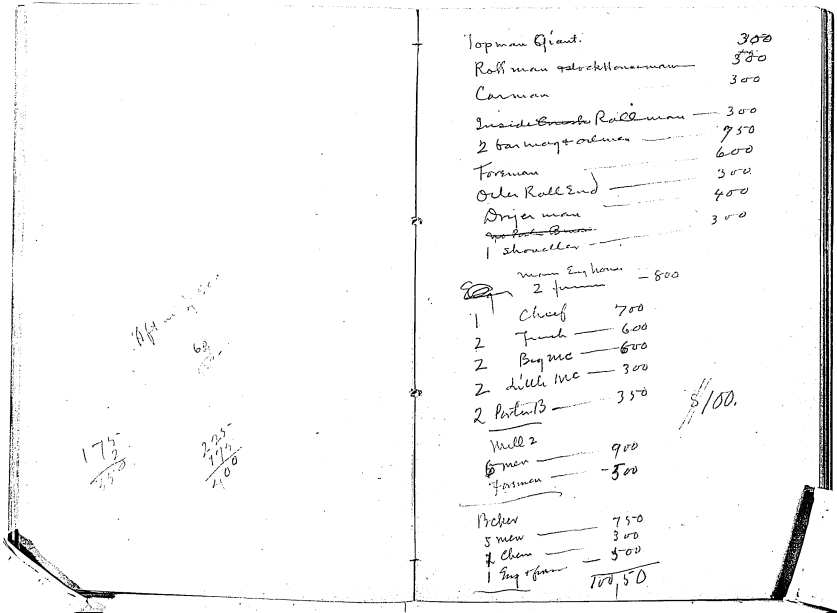
7200
40
200
8000
16
400
6400
60 windows





Topman Giant. 300
Roll man ~~stockkeeperman~~ 300
Carman 300
Inside ~~Smoke~~ Roll man — 300
2 barmen + oilmen — 750
Foreman — 600
Order Roll End — 300
Driver man — 400
~~Spot Boss~~
1 shoveller — 300
mess Engineer
2 firemen — 800
1 Chief 700
2 Turners — 600
2 Bay mc — 600
2 Little mc — 300
2 Portmen — 350
$100.
Mill 2
6 men — 900
Foreman — 500
Pitchers 750
5 men — 300
7 Chem — 500
1 Engineer
100,50

100 — 100 00

Shorten pipes — 300
Lead chim — 350

Cable Engr — 18.00.
4 tip men 600
8 Sig boys 6.00
~~2 Engineers~~ ~~70~~

Board to pay for Courtney Farm
Timbers, Bldg Coal — Dim Smith etc.

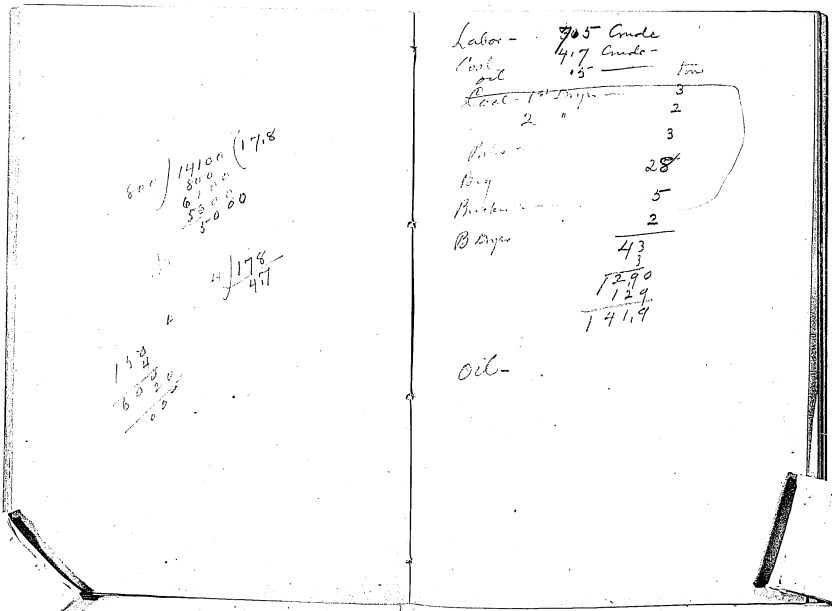
Carl. 800.

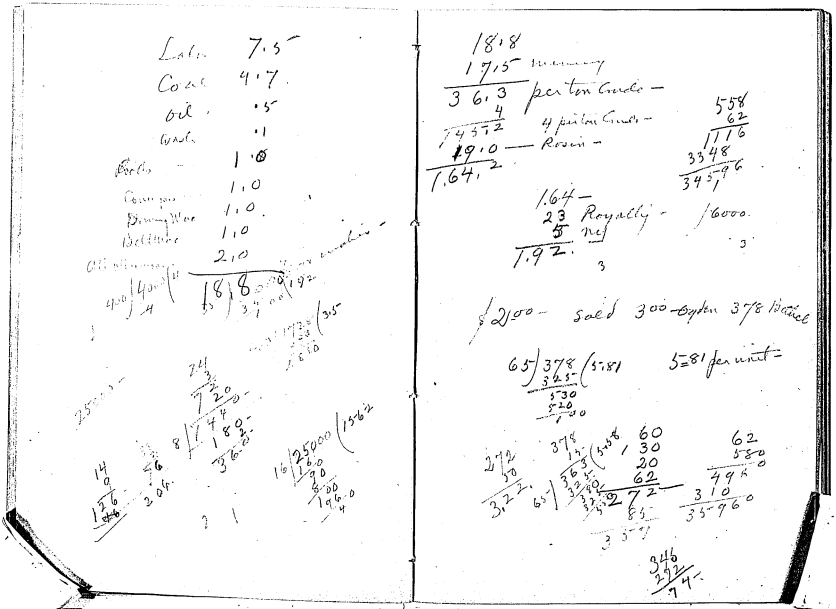
1 Mechanic + Carpenter — 38.00.
+ foreman with Blacksmith
Shop-makers etc

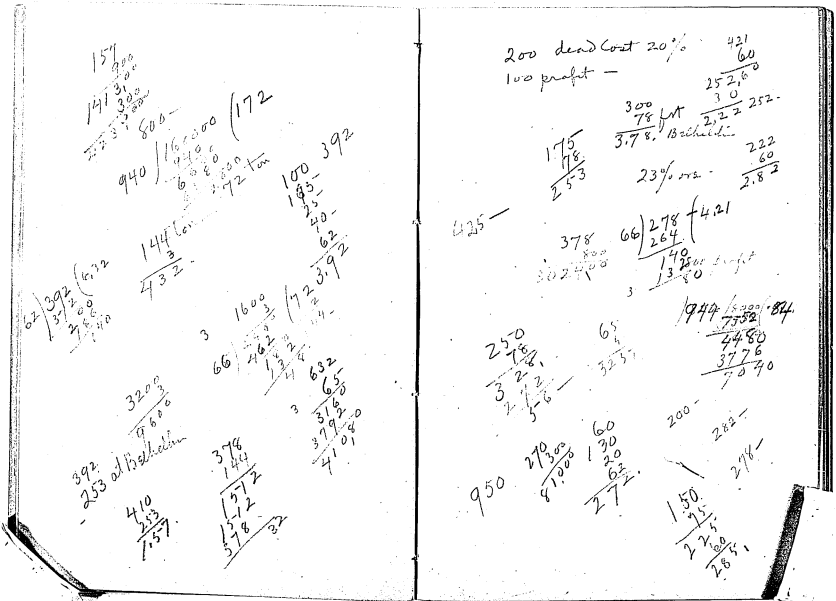
Charles Tennessee 12 00
6.00.
Army- 12.00
General 212 50
Curley + Hess 28 00
240 50

a

212.5
212
75
60.00
240.00 | 3
80.0 | 3
800
300 | 84.0.0 | 28
60







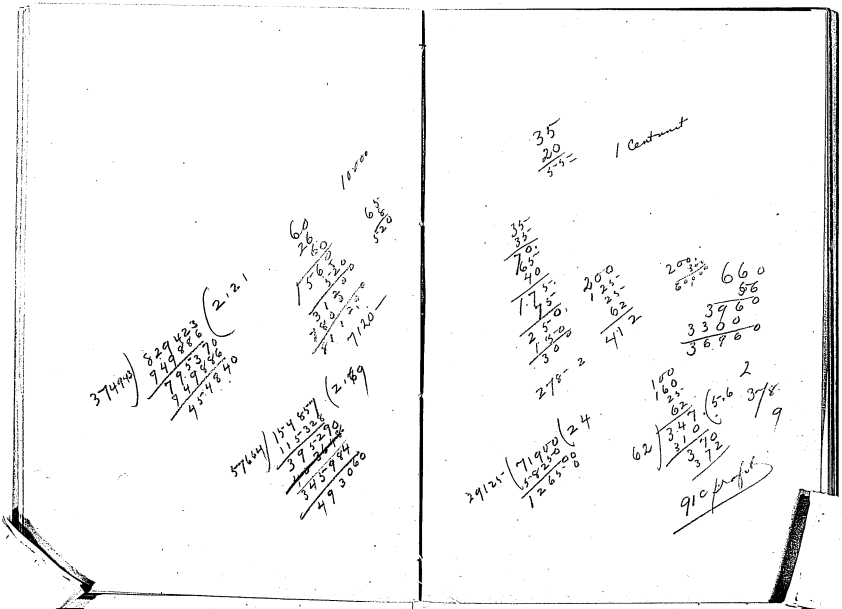
800 - biweekly

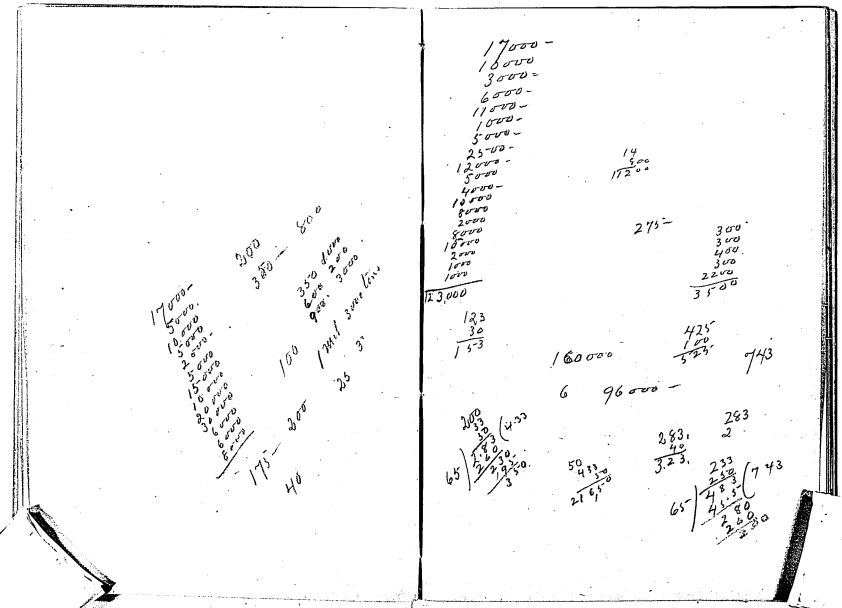
$\frac{320}{420}$ $\frac{35}{12}$

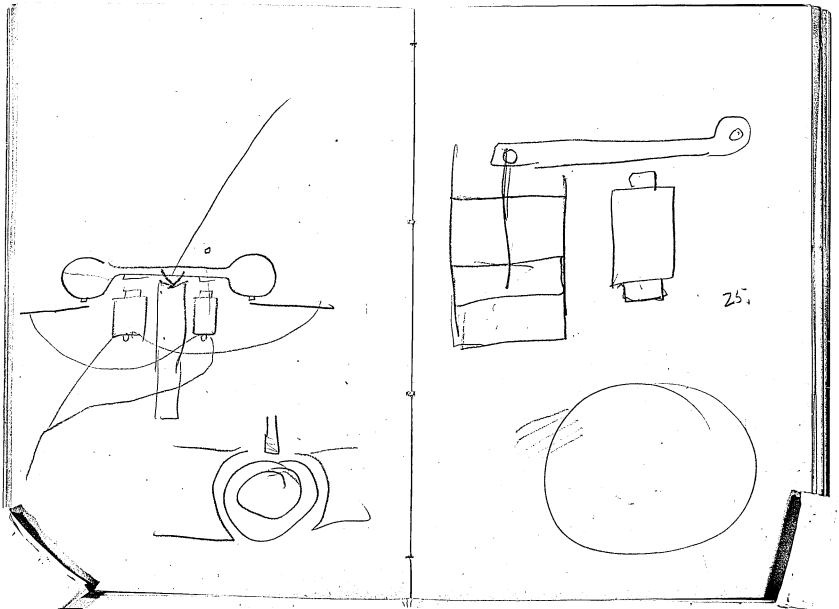
$\frac{70}{350}$ $\frac{70}{350}$

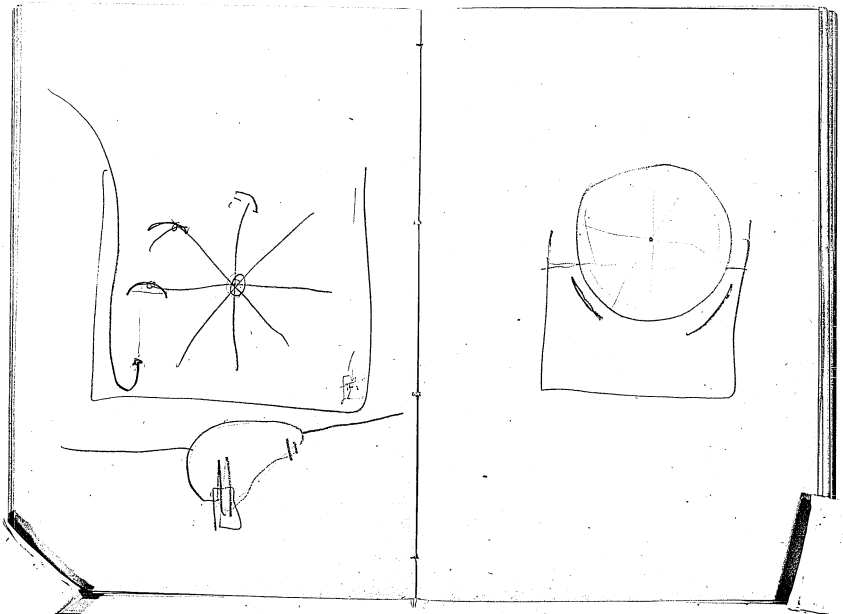
$\frac{350}{420}$ $\frac{350}{420}$

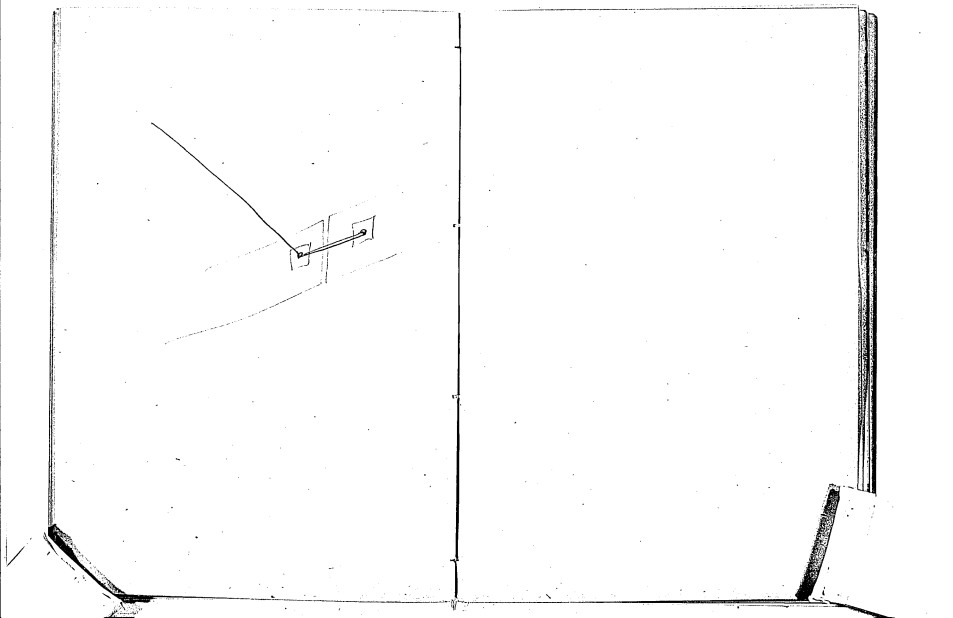
8400 - 4200 = 4200 lbs

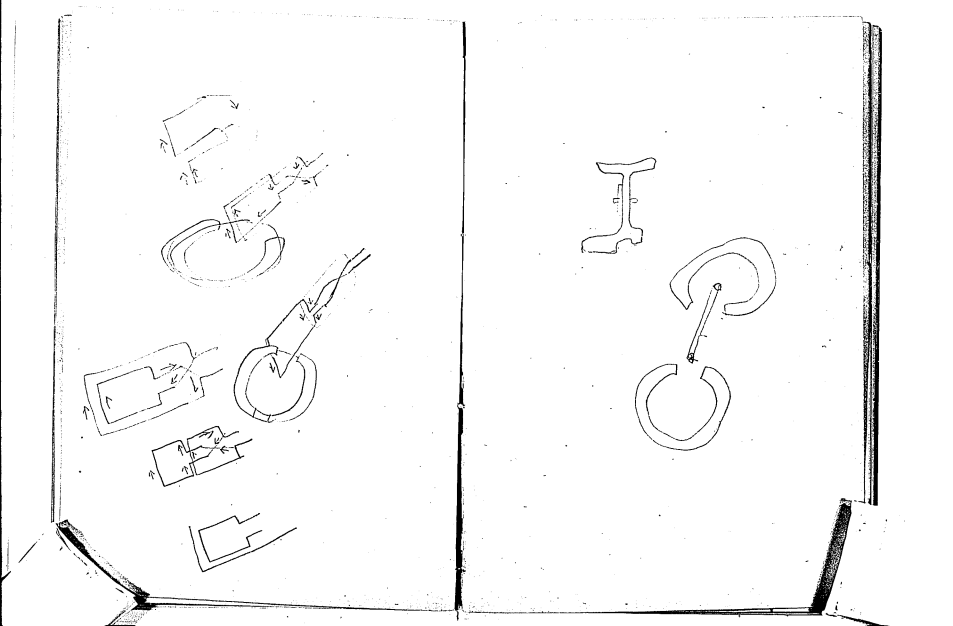


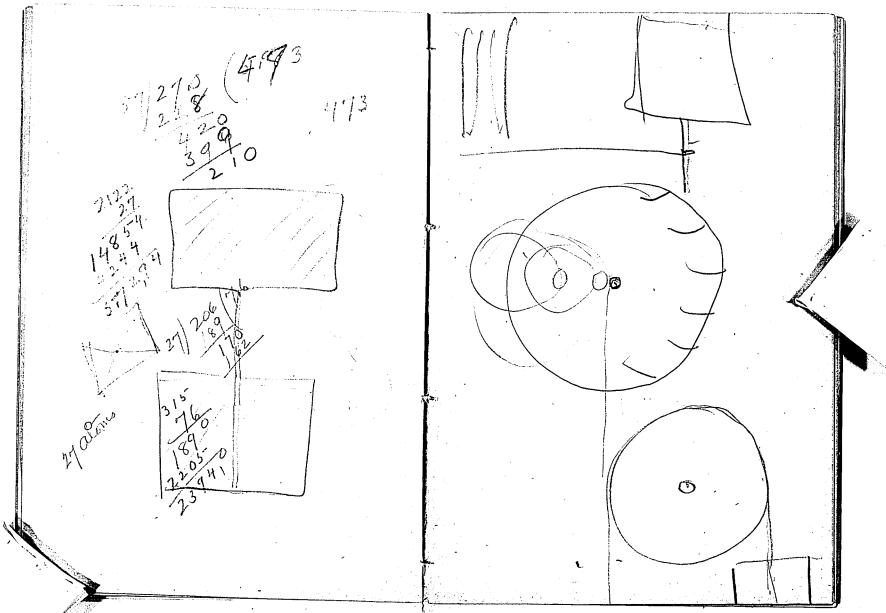
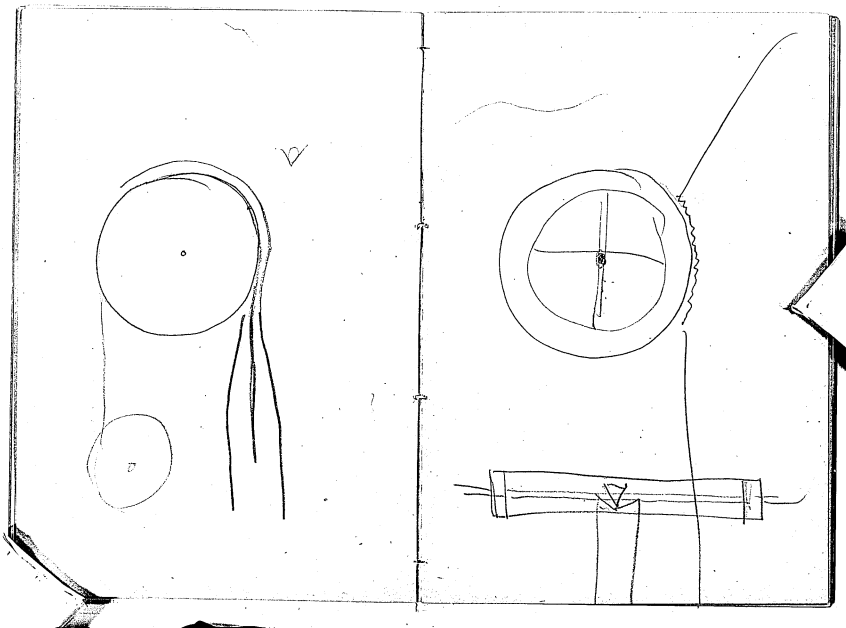



25.








4173
4173
24 chairs